

MAQTQGTRRKVCYYYDGDVGNYYYGGQHPMKPHRIRMTHNLLN  
YGLYRKMEIYRPHKANAEEMTKYHSDDDYIKFLRSIRPDNMSEYSKQMQRFNVEDCPV  
FDGLFEFCQLSTGGSVASAVKLNKQQTDI AVNWAGGLHHAKKSEASGFCYVNDIVLAI  
LELLKYHQRVLYIDIDIHHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGK  
GKYAVYPLRDGIDDES YEAI FKPVMSKVMEMFQPSAVVLQCGSDSLSGDRLGCFNL  
TIKGHAKC VEFVKSFNLPMLMLGGGYTIRNVARCWTYETAVALDTEIPNELPYNDYF  
EYFGPDFKLHISPSNMTNQNTNEYLEKIKQRLFENLRMLPHAPGVQMQAIPEDAIPEE  
SGDEDEDDPKRISICSSDKRIACEEEFFSDSEEEGEGGRKNSSNFKKAKRVKTEDEKE  
KDPEEKKEVTEEEKTKEEKPEAKGVKEEVKLA (SEQ ID NO:1)

#10

1 atgtctgggg tctctgcccg ctggtgctgc tgtctcccac tcggtcatcc tgagaacaca  
 61 gcctgagcgr ctctgacct cggggtagac cagcggggga ggcgagcaag atggcgacaga  
 121 cgcagggcac cggaggaaa gtctgttact actacgacgg gcatgttggg aattactatt  
 181 atggacaagg ccaccaatg aagcctcacc gaatccgcat gactcataat ttgctgctca  
 241 actatggtct ctaccgaaaa atggaatatct atcgccctca caagccaat gctgaggaga  
 301 tgaccaagta ccacagcgtat gactacatta aattcttgcg ctccatccgt ccagataaca  
 361 tgtcggagta cagcaagcag atgcagagat tcaacggttg tgaaggactgt ccagtattcg  
 421 atggcctgtt tgagttctgt cagttgtcta ctggtggttc tgtggcaagt gctgtgaaac  
 481 ttaataagca gcagacggac atcgccgtga attgggctgg gggcctgcac catgcaaaaga  
 541 agtccgagc atctggcttc tgttacgtca atgatatcgt ctggccatc cttggaactgc  
 601 taaagtatca ccagagggtg ctgtacattg acattgatat tcaccatggt gacggcgtgg  
 661 aagaggcctt ctacaccacg gaccgggtca tgactgtgtc cttcataag tatggagagt  
 721 acttcccagg aactggggac ctacgggata cgggggctgg caagacaaag tattatgctg  
 781 ttaactacc gctccgagac gggattgatg acgagtccta tgaggccatt tccaagccgg  
 841 tcatgtccaa agtaatggag atgttccagc ctagtgcggt ggtcttacag tgtggctcag  
 901 actccctatc tggggatcgg ttaggttgct tcaatctatc tatcaaaagg cacgccaaat  
 961 gtgtggaatt tgtcaagagc ttaaacctgc ctatgctgat gctgggagggc ggtggttaca  
 1021 ccattcgtaa cgttgcccgg tgctggacat atgagacagc tgtggccctg gatacggaga  
 1081 tccctaatag gcttccatc actaaccaga acacgaatga gtacctggag aagatcaaac  
 1141 acatcagtc ccacaaactt agaattgctg cgcacgcacc tggggtccaa acgcaggcga  
 1201 agcgactgtt tgagaacctt gaggagagtg gcgatgagga cgaagacgac cctgacaagc  
 1261 ttcctgagga cgcatccct ctgctcctct gacaaaagaa ttgcctgtga ggaagagttc tccgattctg  
 1321 gcatctcgat ctgctcctct agaggggggc cgcaagaact ctccaactt caaaaaagcc aagagagtca  
 1381 aagaggaggg tgaaaaagag aaagacccag aggagaaaga agaatcacc gaagaggaga  
 1441 aaacagagga ggagaaagca gaagccaaag ggttcaagga ggaggccaag ttggcctgaa  
 1501 aaaccaaagg cagctctggc ttcctgctga gtccctcacg tttctttccc c (SEQ ID NO:2)  
 1561 tggacctctc

FIG. 1B



3/37

FIG. 2A

1 cgccgagctt tcggcacctc tgcggggtgg taccgagcct tccggggcgc cctcctcttc  
61 ctcccaccgg cctgcccttc ccgcggggac tatcgccccc acgtttccct cagccctttt  
121 ctctcccgcc cgagccgagg cggcagcagc agcagcagca gcagcaggag gaggagcccg  
181 gtggcgccgg tggccgggga gcccatggcg tacagtcaag gaggcggcaa aaaaaagtc  
241 tgctactact acgacggtga tattggaat tattattatg gacaggggtca tcccatgaag  
301 cctcatagaa tccgcatgac ccataacttg ctgttaaat atggcttaca cagaaaaatg  
361 gaaatatata ggcccataaa agccactgcc gaagaaatga caaatatatca cagtgatgag  
421 tatatcaaat ttctacggtc aataagacca gcttttgatg gactcttga taagcagatg  
481 catatattta atgttggaga agattgtcca tgctggagct gctccttga gttttgtcag  
541 ctctcaactg gcggttcagt ttctacggtc gctaaagtaa accgacaaca gactgatag  
601 gctgttaatt gggctggagg attacatcat gctaagaaat acgaagcatc aggatcctgt  
661 tacgttaatg atatgtgct tgccatcctt gaattactaa agtatcatca gagagtctta  
721 tatatcgata tagatatcca tcatgggtgat ggtgtcgaag aagcctttaa tacaacagat  
781 cgtgtaatga cgggtatcatt ccataaatat ggggaatact ttcctggcac aggagacttg  
841 agggatatgg gtgctggaaa aggcaaatat cctaaatctc attttccaat gtgtgatggt  
901 atagacgatg agtcatatgg gcagatatat ggtgcagact cattatctgg tgatagactg  
961 tatcaacctt atctaacagt caaagggtcat gctaaatgtg tagaagtgtg aaaaactttt  
1021 ggttgtttca tactgatgct tggaggagggt ggctacacaa tccgtaatgt tgctcgatgt  
1081 aacttaccat agactgcagt accagacttc aaactgcata ttagtccttc aaacatgaca  
1141 tggacatatg agtattttgg tacggaaaag ataaaacagc gtttgtttga aaatttgcgc  
1201 gattactttg agtattttgg atgcacctgg atgaagatgg agaattctca gattctgagg atgaaggaga agagggtcga  
1261 aaccagaaca ctccagaata ctgcacctgg ctgatcataa gaaaggagca aagaagctta agaatgaaga agataagaaa  
1321 atgttacctc atgcacctgg atgaagatgg cttgtgatga gaaaggagca gaagaaagata aatccaagga caacagtgggt  
1381 gacagtggag atgaagatgg cttgtgatga gaaaggagca gaagaaagata aatccaagga caacagtgggt  
1441 aagcggatag atgaagatgg cttgtgatga gaaaggagca gaagaaagata aatccaagga caacagtgggt  
1501 agaaatgtgg acaaaaaac atacccaaag aaccataatca gaaagactta agaatgaaga agataagaaa  
1561 gaaacagagg atacccaaag aaccataatca gaaagactta agaatgaaga agataagaaa  
1621 gaaaaaacag atacccaaag aaccataatca gaaagactta agaatgaaga agataagaaa  
1681 tctcaccaat ttccagaaat ggcttcattt tatactactt tgggcatggac tgatatctat  
1741 gaagacttct ggtttcattt tatactactt tgggcatggac tgatatctat  
1801 actttttcgt ttttgttttt ctgggcaagt ttatttgtga gatcttctaa aaattgatgt  
1861 aaatttcttt tctccaccat gcttttatgtg atagtattta aaattgatgt gagttatat  
1921 gtcaaaaaaa ctgatctatt aaagaagtaa ttggcctttc tgagctgaaa aaaaaaaa  
1981 aaaag (SEQ ID NO:4)

FIG. 2B

MAKTVAIFYDPDVGNFHYGAGHPMKPHRLALTHSLVLYGLYKK  
MIVFKPYQASQHDMCRFHSEDYIDFLQRVSPNTMQGFTKSLNAPNVGDDCPVFPGLFE  
FCSRYTGASLQATQLNNKICDIANWAGGLHHAKKFEASGFCYVNDIVIGILELLKY  
HPRVLYIDIDIHHGDGVQEAFFYLTDRVMTVSFHKYGNFFPGTDMYEVGAESGRYYC  
LNVPLRGIDDQSYKHLFPVINQVDFYQPTCIVLQCGADSLGCDRLGCFNLSIRGH  
CECVEYVKSFNIPPLLVLGGGYTVRNVARCWYETSLLVEEAISEELPYSEYFEYFAP  
DFTLHPDVSTRIENQSRQYLDQIRQTIFENLKMNLHAPSVQIHDVPADLLTYDRTDE  
ADAEERGPEENYSRPEAPNEFYDGDHDNDKESDVEI (SEQ ID NO:5)

FIG. 3A

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1  ggaattcgcg  gccgcggcgg  gccgcgggagg  tgcgggggcct  gctccgcgcg  gcaccatggc
61  caagaccgtg  gcctatttct  acgaccccga  cgtggggcaac  ttccactacg  gagctggaca
121  ccctatgaag  cccatcgcg  atcgtcctca  cccatcgcg  ggcctcccaa  acgctgcatt  acggtctcta
181  taagaagatg  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
241  ctccgaggac  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
301  caagagtctt  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
361  gttctgctcg  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
421  ctgtgatatt  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
481  tggcttctgc  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
541  tcgggtgctc  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
601  cctcactgac  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
661  cacaggtgac  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
721  cctgcgggat  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
781  gtagtgagac  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
841  ctgtgatcga  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
901  tgtcaagagc  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
961  tgttgcccg  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1021  gcttccctat  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1081  cagcaccgc  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1141  ctttgaaaac  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1201  agacctcctg  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1261  gaaactatag  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1321  gaaagcgat  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1381  cactcttgg  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1441  ggggcttgg  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1501  cctgcttgg  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1561  caaggatagc  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1621  ttgcccctta  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1681  agacaaggac  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1741  ccttgcttcc  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1801  ctgaatccca  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1861  ctctcacttt  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca
1921  attttttcta  atcgtcctca  tacattgact  aatgccttca  cgttacacag  ggcctcccaa  catgacatgt  gccgcttcca

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(SEQ ID NO:6)

FIG. 3B

"00000" 00000000

MLAMKHQQELLEHQKLERHRQEQELEKQHQREKQLQQLKNKEKG  
KESAVASTEVMKMLQEFVLNKKKALAHPNLNHCISCPRYWYKQTQHSSLDQSSPPQS  
GVSTSYNHPVLGMYDAKDDFPLRKTASEP NLKRLSR LKQKVAERRSSPLLRRKDG PVV  
TALKKRPLDVTDSACSSAPGSGPSSPNNSSGSVAENGIAPAVPSIPAETSLAHLVA  
REGSAAPLPLYTSPSLPNI TLGLPATGPSAGTAGQDTERLTLPALQQRLSLFPGTHL  
TPYLSTSPLE RDGGAHSP LLQH MVLL EQPPA QAPLV TGLGALPLHAQSLVGADRVSP  
SIHKL RQHRPLGR TQSA PLPQNAQALQHLVIQQHQHQFLEKHKQFQQQQQLQMNKIIP  
KPSEPARQPE SHPEETEELREHQALLDEPYLDRLPGQKEAHAQAGVQVKQEP IESDE  
EEAEP PREVEPGQRQPS EQELLFRQQALLLEQQRIHQLRNYQASMEAAGIPVSFGGHR  
PLSRAQSSPASATFPVSVQEPPTTKPRFTTGLVYDTLMLKHQCTCGSSSSHPEHAGRIQ  
SIWSRLQETGLRGKCECIRGRKATLEELQTVHSEAHTLLYGTNPLNRQKLD SKKLLGS  
LASVFVRLPCGGVGVDSDTIWNEVHSAGAAARLAVGCVVELVFKVATGELKNGFAVVRP  
PGHHAEESTPMGFCYFNSVAVAAKLLQQRLSVSKILIVDWDVHHGNGTQQAFYS DPSV  
LYMSLHRYDDGNFFPGSGAPDEVGTGPGVGFNVMMAFTGGLDPPMGDAEYLA AFRTVV  
MPIASEFAPDVVLASSGFDAVEGHPTPLGGYNLSARCFGYLTKQLMGLAGGRIVLAL E  
GGHDLTAICDASEACVSALLGNELDPLPEKVLQQRPNANAVRSM EKVMEIHSKYWRCL  
QRTTSTAGRSLIEAQTCENEEAETVTAMASLSVGVKPAEKRPDEEPMEEEPPL (SEQ ID NO:7)

FIG. 4B-1
FIG. 4B-2
FIG. 4B-3
FIG. 4B-4
FIG. 4B-5

FIG. 4B

1 ggaggttgtg gggccgccgc cgcggagcac cgtccccgcc gccgcccgag ccgagaccgc  
 61 agcccgcgca ccgccccgcg ccgcccgcgc cgcggcccgga acagcctccc agcctgggcc  
 121 ccgcgcgcg ccgtggccgc gtcccggctg tgcgcccgcc agcccagacc cgcgcgcgcg  
 181 cgggtggcgg cgcaggctga ggcagtgagg ggcggagcgc cggagcaggg cttagaccgc  
 241 ccgccccgc ccgcccgggt aagcgcagcc ccgccccgc gcccgccggc cattgtccgc  
 301 cgcgccgcc cgcgcccgcc cagcctgcag gccttgagc ccgcccaggg tggacgccgc  
 361 cgggtccacac ccgccccgcg cgcggcccggt ggagggccgg gccagcgcgt gcccgccgcgc  
 421 gtgggacccg ccggtcccca ccggtcccca ggccttctg gaccttcca ccgcccgcgc  
 491 gaggcggcct cgcgcgccgc cgcggggggc cgcggggggc cgcggcaggg agcggcgccgc  
 541 tctcccggtg cggggccgcg gccccccgag caggttcatc tgcagaagcc agcggacgcc  
 601 tctgttcaac ttgtgggta cctggctcat gagacctgc cgcgcagggc cgcgcgtga  
 661 acgtctgtga ccagccctc accgtcccggt tacttgtatg tgttggcggg agtttggagc  
 721 tcgttgagc tatcgtttcc gtggaattt tgagccattt cgaatcactt aaaggagtgg  
 781 acattgctag caatgagctc caaagccat ccagatggac ttctggccg agaccagcca  
 841 gtggagctgc tgaatccgc ccgcgtgaac cacatgcca gcacgggtga tgtggccacg  
 901 gcgctgcctc tgcaagtggc ccccccgga gegccatgg acccgccct ggaccaccag  
 961 ttctcactgc ctgtggcaga gccggccctg cgggagcag agctgcagca ggagctcctg

FIG. 4B-1



1021 gcgctcaagc agaagcagca gatccagagg cagatcctca tcgccgagtt ccagaggcag  
 1081 cacgagcagc tctccgggca gcacgaggcg cagctccacg agcacatcaa gcaataacag  
 1141 gagatgctgg ccatgaagca ccagcaggag ctgctggaac accagcggaa gctggagagg  
 1201 caccgccagg agcaggagct ggagaagcag caccgggagc agaagctgca gcagctcaag  
 1261 aacaaggaga agggcaaaaga gagtgcctg gacagcacag aagtgaagat gaagttaaa  
 1321 gaatttgtcc tcaataaaaaa gaaggcgctg gccaccgga atctgaacca ctgcacttcc  
 1381 agagaccctc gctactggtta cgggaaaacg cagcacagt ccctgacca gagtcttcca  
 1441 cccagagcg gagtgtcgac ctctataaac caccgggtcc tgggaatgta cgacgccaaa  
 1501 gatgacttcc ctcttaggaa aacagcttct gaaccgaatc tgaaatcacg gtccaggcta  
 1561 aagcagaaag tggccgaaag acggagcagc cccctgttac gcaggaaaga cgggccagtg  
 1621 gtactgtctc taaaaaagcg tccgttgat gtacagact ccgctgagc cagcgcacca  
 1681 ggctccggac ccagctcacc caacaacagc tccgggagcg tcgctgtggg gaacgggtatc  
 1741 gcgcccgcgg tcccagcat cccggcgagg acgagtctgg cgcacagact tgtggcacga  
 1801 gaaggctcgg ccgctccact tcccctctac acatcgccat ccttgccaa catcacgctg  
 1861 ggcctgcctg ccaccggccc ctctgcgggc acggcgggcc agcaggacac cgagagactc  
 1921 acccttcccg cctccagca gaggctctcc ctcttcccg gaacccacct cactccctac  
 1981 ctgagcacct cgcccttggg gcgggacgga ggggcagcg acagccctct tctgcagcac  
 2041 atggtcttac tggagcagcc accggcacaa gcacccctcg tcacaggcct gggagtactg  
 2101 cccctccag cactgcctt ggttggtgca gaccgggtgt cccctccat ccacaagctg  
 2161 cggcagcacc gccactggg gcggacccag tcggcccccgc tggccagaa cgcccaggct  
 2221 ctgacgaccc tggatcatcca gcagcagcat cagcagtctt tcgagaaaaa caagcagcag  
 2281 tccagcagc agcaactgca gatgaacaag atcatcccca agccaagcga gccagcccg  
 2341 cagccggaga gccaccggga ggagacggag gaggagtcc gtgagaccca ggctctgctg  
 2401 gacgagccct acctggaccg gctgcggggg cagaaggagg cgcacgcaca ggcggcgctg  
 2461 cagggtgaagc aggagcccat tgagagcgat gaggaaagag cagagccccc acgggaggtg  
 2521 gagccgggac agcggcagcc cagtgcctct gactgctct tcagacagca agccctcctg  
 2581 ctggagcagc agcggatcca ccagctgagg aactaccagg cgtccatgga ggcggccggc  
 2641 atccccgtgt ccttcggcgg ccacaggcct ctgtcccggg cgcagtcttc accgcgtct  
 2701 gccaccttcc ccgtgtccgt gcaggagccc cccaccaagc cgaggttcac gacaggcctc  
 2761 gtgtatgaca cgctgatgct gaagcaccag tgcacctgag ggagtagcag cagccacccc  
 2821 gagcacgccc ggaggatcca gagcatctgg tccgcctgc agaagacggg cctccggggc

2881 aaatgcgagt gcatccgcgg acgcaaggcc accctggaag agctacagac ggtgcactcg  
 2941 gaagcccaca ccctcctgta tggcacgaac ccctcaacc ggcagaaact ggacagtaag  
 3001 aacttcttag gctcgctcgc cctatggaa cgaggtgcac tccggctcc ctgcggtg gttggggtg  
 3061 gacagtgaca ccatatggaa agctggtctt caaggtggcc acaggggagc tgaataatgg ctttgctgtg  
 3121 tgcgtggtag gtccgcccc ctggacacca tgcggaggag agcacgccca tgggcttttg ctacttcaac  
 3181 gtccgcccc tccgcggccg tggcagccaa gcttctgcag accagcagg ctttctacag gacccttagc  
 3241 tccgcggccg gtggactggg acgtgcacca tgcctctcca ccgctacgac gatgggaaact tcttcccagg cagcggggct  
 3301 gtccgcccc gtccgtgtag cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3361 gtccgtgtag cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3421 cctgatgagg cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3481 ggcctggacc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3541 ccgactcgca cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3601 gagggccacc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3661 acgaagcagg cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3721 gacctgaccg cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3781 cttgatcctc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3841 atggagaaag cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3901 acagcggggc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 3961 accgccatgg cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4021 cccatgggag cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4081 tgtctctgtc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4141 gggctctctt cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4201 cgcccaggcc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4261 aacacgggac cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4321 tggcgggtcc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4381 tgcggaattc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4441 caaacttgat cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4501 aaccactcga cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4561 gggccgcctc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4621 gagggacctt cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg  
 4681 cttgagtttc cctgatgagg ccccatggg gcgagtctgc cccgggtac aacctctccg ccagatgctt cgggtacctg

4741 gtggattttt gtggctgggt tttctgaagt ctgaggaaca atgccttaag aaaaaacaaa  
 4801 cagcaggaat cgtggggaca gtttcctgtg gccagccgag cctggcagtg ctggcacccg  
 4861 gagctggcct gacgcctcaa gacgcctcat cagccgtcat ctcggggcc aggggctgca  
 4921 gccggcgggt ccctgttttg ctttatgtct gtttaagaaa aatggaggta gttccaaaaa  
 4981 agtggcaaat cccgttggag gttttgaagt ccaacaaatt taaacgaat ccaaagtgtt  
 5041 ctcacacgtc acatacgatt gagcatctcc atctggctgt gaagcatgtg gtaggcacac  
 5101 ttgcagtgtt acgatacgaa tgcttttttat taaaagcaag tagcatgaag tattgcttaa  
 5161 attttaggta taaataaata tataatgta taaatatatt tcaatgtat tccaagctaa  
 5221 gaaacttact tgattcttat gaaatcttga tgcgaaggt cctgcaaat tatagaaaaa  
 5281 gtatatatat atatatataa tgaatgcaga ttgcgaaggt cctgcaaat ggatggcttg  
 5341 tgaatttgct ctcaaggctg ttatggaaag ggcacacat tcgacctgg gcaactaccc  
 5401 tcaagctcca gattggctag atttcagatc gcaacacat tcgacctgg ccaactaccc  
 5461 tacaagtttg tactttcatt ttaattattt tctaacagaa ccgctcccgt ctccaagcct  
 5521 tcatgcacat atgtacctaa tgagttttta tagcaagaa tataaatgtg ctgttgattt  
 5561 ttgtatgaat tttttcacaa aaagatcctg aataagcatt gttttatgaa ttttacattt  
 5641 ttcctcacca tttagcaatt ttccgaatgg taataatgtc taaatctttt tcctttctga  
 5701 attcttgctt gtacattttt ttttaccttt caaaggtttt taattatttt tgttttttat  
 5761 ttgtacgat gatttttctg cagcgtacag aattgttgct gtcagattct attttcagaa  
 5821 agtgagagga gggaccgtag gtctttttcg agtgacacca agtatgtgt ctttcctggt  
 5881 ctgtccctagg agctgtataa agaagcccag gggctctttt taactttcaa cactagtagt  
 5941 attacgagg gtggtgtgtt ttcccccctc ttgccaaggg cagggagggt tgcttaggat  
 6001 gccgggccac cctgggaggc ttgccaagtg ccggggggcag tcagcattaa tgaactcat  
 6061 gtttaaaact ctctgaccac atcgtcagga tagaatctta acttgagttt tccaaacacc  
 6121 ttttgagcat gtcagcaatg catggggcac acgtggggct cttaccacac ttgggttttt  
 6181 cactgcagc cactggcca gccctggatt ttggagccctg tggctgcaag gaacccaggg  
 6241 acccttgctg cctggtgaa cctgcaggag ggtatgatg cctgaccagg acagccagtc  
 6301 ttactcttt ttctctcaa cagtaactga cagtcacgtt ttactggtaa cttattttcc  
 6361 agcacatgaa gccaccagtt tcattccaaa gtgtatatg ggttcagact tgggggcaga  
 6421 agttcagaca caccgtgctc aggagggacc cagagccgag ttctggaggt tggtaagt  
 6481 tacagggtag cttctgaaat taactcaaac ttttgaccaa atgagtgcag attcttgat  
 6541 tcacttgctc actgggctgc tgatggctcag ctctgagaca gtggtttgag agcaggcaga

FIG. 4B-5

6601	acggtcttgg	gacttgtttg	actttccctt	cctgggtggc	cactctttgc	tctgaagccc
6661	agattggcaa	gaggagctgg	tccattcccc	attcatggca	cagaaacagt	gcagggccca
6721	gtagcaggg	tcttctggcc	tccctggcct	cattctctgc	atagccctct	ggggatcctg
6781	ccacctgccc	tcttaccctg	ccttggttta	tggggaggaa	tgcatactct	cacttttttt
6841	ttttaagcag	atgatgggat	aacatggact	gctcagtggc	caggttatca	gtggggggac
6901	tttaattctaa	tctcattcaa	atggagacga	cctctgcaaa	ggcctggcag	ggggaggcaa
6961	gtttcatctg	tcagctcact	ccagcttcac	aaatgtgctg	agagcattac	tgtgtagcct
7021	tttctttgaa	gacacactcg	gctcttctcc	acagcaagcg	tccagggcag	atggcagagg
7081	atctgcctcg	gcgtctgcag	gcgggaccac	gtcaggggag	gttccttcat	gtgttctccc
7141	tgtgggtcct	tggaccttta	gcctttttct	tcctttgcaa	aggccttggg	ggcactggct
7201	gggagtcagc	aagcgagcac	tttatatccc	tttgagggaa	accctgatga	cgccactggg
7261	cctcttggcg	tctgacctgc	cctgcgcgct	tcccgccgtg	ccgcagcgtg	cccacgtgcc
7321	cacgccccac	cagcaggcgg	ctgccccgga	ggccgtggcc	cgctgggact	ggccgcccct
7381	cccagcgtc	ccagggtctt	ggttctggag	ggccactttg	tcaagggtgt	tcagtttttc
7441	tttacttctt	ttgaaaatct	gtttgcaagg	ggaaggacca	tttcgtaatg	gtctgacaca
7501	aaagcaagtt	tgattttttg	agcactagca	atggactttg	ttgcctttct	ttttgatcag
7561	aacattcctt	ctttactggt	cacagccacg	tgctcattcc	attcttcttt	ttgtagactt
7621	tgggcccacg	tgtttttatg	gcattgatac	atataataat	atatagatat	aaatatatat
7681	gaatacatat	ttttaagtgt	cctacacctg	gaggttgcac	ggactgtacg	accggcatga
7741	ctttatatat	tatacagatt	ttgacacgca	aactcggcag	ctttggggaa	gaagaaaaat
7801	gcctttctgt	tcccctctca	tgacatttgc	agatacaaaa	gatggaaatt	tttctgtaaa
7861	acaaaaacct	gaaggagagg	agggcgggga	agtttgcgtc	ttattgaact	tattcttaag
7921	aaattgtact	ttttattgta	agaaaaataa	aaaggactac	ttaaacattt	gtcatattaa
7981	gaaaaaaagt	ttatctagca	cttgtgacat	accaataata	gagtttatgt	tatttatgtg
8041	gaaacagtgt	tttagggaaa	ctactcagaa	ttcacagtga	actgcctgtc	tctctcgagt
8101	tgattttggag	gaatttttgt	ttgttttgtt	ttgttttgtt	ccttttatct	ccttccacgg
8161	gccaggcgag	cgccgcccg	cctcactggc	cttgtgacgg	tttattctga	ttgagaactg
8221	ggcggactcg	aaagagtccc	cttttccgca	cagctgtgtt	gactttttaa	ttacttttag
8281	gtgatgtatg	gctaagattt	cactttaagc	agtcgtgaac	tgtgcgagca	ctgtgggtta
8341	caattatact	ttgcatcgaa	aggaaaccat	ttcttcaatt	taacgaagct	gagcgtgttc
8401	ttagctcgcc	ctcactttgt	ctctggcatt	gattaaaagt	ctgctattga	aagaaaaag (SEQ ID NO:8)



FIG. 5B-1
FIG. 5B-2

FIG. 5B

1 ccctgaggca ggtggcacg ctgaccggca agttcatgag cacatcctct attcctggct  
 61 gcctgctggg cgtggcactg gaggcgacg ggagccccc agagcctct tccctgctgc  
 121 agcatgtgct gttgctggag caggcccgcc agcagagcac cctcattgct gtgccactcc  
 181 acgggcagtc cccactagt cccactagt acgggtgaac gtgtggccac cagcatgcgg acggtaggca  
 241 agtccccg agtccccg gcatcgccc ctgagccgca ctcagtcctc accgctgccg cagagtcccc  
 301 aggcctgca gcagctggtc atgcaaac agcaccagca gttcctggag aagcagaagc  
 361 agcagcagct acagctggg acagctggg aagatcctca ccaagacagg ggagctgcc aggcagccca  
 421 ccaccaccc tggagggagc gaggaggagc tgacggagca gcaggaggtc ttgctggggg  
 481 agggagccct gaccatgcc gacatggcc gaggaggag ccacagagag tgagagcaca caggaagacc  
 541 tggaggagga ggacgaggaa gaggatggg gaggaggag agcagagga ggattgcac caggttaagg  
 601 acgaggagg ggtgaggtg gctgaggag gcccgcactt ggaggagcct ggtgctggat  
 661 acaaaaaact gttctcagat gccagccgc tgcagccttt gcaggtgtac caggcgcccc  
 721 tcagcctggc cactgtgcc caccaggccc tgggccgtac ccagtcctcc cctgctgccc  
 781 ctgggggcat gaagagcccc ccagaccagc ccgtcaagca cctcttcacc acaggtgtgg  
 841 tctacgacac gttcatgcta aagcaccagt gcatgtgcgg gaacacacac gtgcaccctg

FIG. 5B-1

FIG. 5B-2

1 mtstgqdstd trqrrsrqnp qspqdssvt skrnikkjav prsipnlaev kkkgkmmkklg  
 61 gameedlivg lqgmdlnlea ealagtglvl deqlnefhcl wddsfpegpe rlhaikeqli  
 121 qeglldrcvs fqarfaekee lmlvhsleyi dlmcttqymn egelrvladt ydsvylhpns  
 181 yscacclasgs vlrlvdavlg aeirngmai rppghhaqhs lmdgycmfndh vavaaryaqg  
 241 khrirrvliv dwdvhhgqgt qftfdqdpv lyfsihryeq grfwphlkas nwsttgfgqg  
 301 qgytinvpwn qvgmrdadyi aafhlvllpv alefqpqlvl vaagfdalqg dpkgemaatp  
 361 agfaqlthll mglaggklil sleggnira laegvsaslh tllgdpcpml espgapcrsa  
 421 gasvscalea lepfwevlvr stetverdnm eednveese eggweppvlp iltwvplqsr  
 481 tglvydqnmn nhcnlwdshh pevqqrilri morleelgia grcltitprp ateaelltch  
 541 saeyvghlra tekmtrelh ressnfdsiy icpstfacaq iatgaacrly eavisgevin  
 601 gaavvrppgh haeqdaacgf cfnsvavaa rhaqtisgha lrilivdwdv hhngngtqhmf  
 661 eddpsvlyvs lhrydhgtff pmgdegassq igraagtgtf vnvawngprm gdadylaawh  
 721 rlvlpayef npelvlvsag fdaargdplg gcqvspegia hlthllmgl sgrilileg  
 781 gynltsises maactrsilg dppplltlpr pplsgalasi tetiqvhray wrslrvmkve  
 841 dregpssskl vtkkapqak prlaermtrr ekkvleagmg kvtsasfgee stpgqtnset  
 901 avvalcqdqp seaatggatl aqtiseaaig gamlgqttse eavggatpdq ttseetvga  
 961 ildqttseda vggatigqtt seeavggatl aqtiseaame gatldqttse eapgggteliq  
 1021 tplasstdhq tpptspvqgt tpqispstli gslrtlelgs esqgasesqa pgeenllgea  
 1081 agggqdmadsm lmqgsrgltd qaiifyavtvl pwcphlvavc pipaagldvt qpcgdcgtiq  
 1141 enwvclscyq vycgryingh mlqhhgnsgh plvlsyidl s awcyycqayv hhqalldvkn  
 1201 iahqnkfged mphph (SEQ ID:11)

FIG. 6A



FIG. 6B-1
FIG. 6B-2
FIG. 6B-3

FIG. 6B

1 gggcagtcct ctgaggagcg gggctggttg aaacgctagg ggcgggatct ggcggagtgg  
61 aagaaccgcg gcaggggcca agcctcctca actatgacct caaccggcca ggattccacc  
121 acaaccaggc agcgaagaag taggcagaac cccagtcgc cccctcagga ctccagtgtc  
181 acttcgaagc gaaatatata aaggaggcc gtccccgct ctatcccaa tctagcggag  
241 gtaagaaga aaggcaaat gaagaagctc ggccaagcaa tggagaaga cctaatactg  
301 ggactgcaag gtaggatatc gaacctcgag gctgaagcac tggctggcac tggcttgggtg  
361 ttggatgagc agttaaatga attccattgc ctctgggatg acagcttccc ggaaggccct  
421 gagcggctcc atgccatcaa ggagcaactg atccaggagg gcctcctaga tcgctgcgtg  
481 tcctttcagg cccggtttgc tgaaaaggaa gagctgatgt tggttcacag cctagaatat

FIG. 6B-1

541 attgacctga tggaaacaac ccagtacatg aatgagggag aactccgtgt cctagcagac  
 601 acccagact cagtttatct gcatacgaac tcatactcct gtgcctgcct ggcctcaggc  
 661 tctgtcctca ggctggtgga tgcggtcctg ggggctgaga tccggaacgg catggccatc  
 721 attaggcctc ctggacatca cggccagcac agtcttatgg atggctattg catgttcaac  
 781 cacgtggctg tggcagcccg ctatgctcaa cagaaacacc gcacccggag ggtccttacc  
 841 gtagattggg atgtgcacca cggccaagga acacagttca cctcgacca ggaccccagt  
 901 gtcctctatt tctccatcca ccgctacgag cagggtaggt tctggcccca cctgaaggcc  
 961 tctaactggt ccaccacagg ttctggccaa ggccaaggat ataccatcaa tgtgccttgg  
 1021 aaccaggctg ggatgcggga tgcctgactac attgctgctt tcctgcacgt cctgctgcca  
 1081 gtcgccctcg agctccagcc tcagctggtc ctggtggccg ctggatttga tgccttgcaa  
 1141 ggggaaccca agggcgagat ggccgccact ccggcagggt tcgcccagct aaccacctg  
 1201 ctcatgggtc tggcaggagg caagctgac ctgtctctgg aggtgggta caacctccgc  
 1261 gccctggctg aaggcgtcag tgcttcgctc cacaccttc tggagagacc ttgcccctg  
 1321 ccggagtcac ctggtgccc ctgccggagc gccaggctt cagtttcctg tgctctggaa  
 1381 gcccttgagc cttcttgga ggttcttggt agatcaactg agaccgtgga gagggacaac  
 1441 atggaggagg acaatgtaga ggagagcgag gaggaaggac cctgggagcc cctgtgtctc  
 1501 ccaatcctga calggccagt gctacagtct cgcacagggc tggctctatga ccaaatatg  
 1561 atgaatcact gcaacttggt ggacagccac caccctgagg taccacagc catcttgccg  
 1621 atcatgtgcc gtctggagga gctgggcctt gccgggcgtt gcctcacctt gacaccgcgc  
 1681 cctgccacag aggtgagct gctcacctgt cactacgtctg agtacgtggg tcactctccg  
 1741 gccacagaga aaatgaaaac ccgggagctg cagcttgcca ctggcgctgc ctgcccctg  
 1801 tatactgcc ccagtaacct tgctctcagg agaggtcctg aatgggtgctg tccccagga  
 1861 gtggaggctg agcaggatgc agcttgccgt ttttgctttt tcaactctgt ggctgtggct  
 1921 caccacgag ccagactat cagtgggcat gccctacgga tcctgattgt ggattgggat  
 1981 gctcgccatg gtaatggaac tcagcacatg tttgaggatg acccagtggt gctatatgtg  
 2041 gtccaccacg gctatgatca tggcaccttc tccccatgg gggatgaggg tgccagcagc  
 2101 tccctgcacc gggccgcggg cacaggcttc accgtcaacg tggcatggaa cgggccccgc  
 2161 cagatcgccc ctgactacct agctgcctgg catcgccctg tgcttcccat tgcctacgag  
 2221 atgggtgatg aactgggtgct ggtctcagct ggctttgatg ctgcacgggg gcatccgctg  
 2281 tttaaccacg

2341 gggggctgcc aggtgtcacc tgagggttat gccacctca cccacctgct gatgggcctt  
2401 gccagtggcc gcattatcct tatcctagag ggtggctata acctgacatc catctcagag  
2461 tccatggctg cctgcactcg ctccctcctt ggagaccac caccctgct gacctgcca  
2521 cggccccac tatcagggc cctggcctca atcactgaga ccatccaagt ccatcgaga  
2581 tactggcgca gcttacgggt catgaaggca gaagacagag aaggaccctc cagtcttaag  
2641 ttggtcacca agaaggcacc ccaaccagc aacctaggt tagctgagc gatgaccaca  
2701 cgagaaaaga aggttctgga agcaggcatg gggaagtca cctcggcatc atttggggaa  
2761 gagtccactc caggccagac taactcagag acagctgtgg tggccctcac tcaggaccag  
2821 ccctcagagg cagccacagg gggagccact ctggcccaga ccatttctga ggcagccatt  
2881 gggggagcca tgctgggcca gaccacctca gaggagctg tcgggggagc cactccggac  
2941 cagaccacct cagaggagac tgtgggagga gccattctgg accagaccac ctcagaggat  
3001 gctgttgggg gagccacgct gggccagact acctcagagg aggcctgtag aggagctaca  
3061 ctggcccaga ccattctgga ggcagccatg gagggagcca cactggacca gactacgtca  
3121 gaggaggctc cagggggcac cgagctgac caaactcctc tagcctcgag cacagaccac  
3181 cagacccccc caacctcacc tgtgcaggga actacacccc agatatctcc cagtacactg  
3241 attgggagtc tcaggacctt ggagctaggc agcgaacctc agggggcctc agaattctcag  
3301 gccccaggag aggagaacct accaggagag gcagctggag gtcaggacat ggctgattcg  
3361 atgctgacgc agggatctag gggcctcact gatcaggcca tattttatgc tgtgacacca  
3421 ctgcccctgg gtcccattc ggtggcagta tgcccatac ctgcagcagg cctagacgtg  
3481 acccaacctt gtggggactg tggaacaatc caagagaact gggtgtgtct ctcttgctat  
3541 caggtctacc gtggtcgtta catcaatggc cacatgctcc aacaccatgg aaattctgga  
3601 caccggctgg tcctcagcca catcgacctg tcagcctggc gttactactg tcaggcctat  
3661 gtccaccacc aggtctcct agatgtgaag aacatcgccc accagaacaa gtttggggag  
3721 gatatgccc acccacata agcccagaa tacggtcct ctacacctc tgaggcccac  
3781 gatagaccag ttccagcctg ttccaggctg tacctggat gaggggtagc ctcccactgc  
3841 atcccatcct gaatatcctt tgcaactccc caagagtgt tatttaagt ttaatacttt  
3901 taagagaact gcgacgatta attgtggat tcccctgcc catcgccgc ttgaggggga  
3961 cactactcc agccagaaag gaaagggggg cagctcagt gcccacagag ggagccgata  
4021 tcatgaggat aacattggcg ggaggggagt taactggcag gcatggcaag gttgcatacg  
4081 taataaagta caagctgtt (SEQ ID NO: 12)

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1  mdlrvgqrpp  vepppeptll  alqrpqrlhh  hlflaglqqq  rsvepmrlsm  dtpmpelqvg
61  pgeqelrqll  hkdkksrsav  assvvkqkla  evilkkqaa  lertvhpns  gipyrtlepi
121  etegatrsm1  ssflppvpsi  psdppehfp1  rktvsepnlk  lrykpksle  rrknpllrke
181  sappslrrrp  aetlgdssps  sstpasgcs  spndsehgn  pilgdsdrrt  hptlgprgpi
241  lgsphtplf1  phglepeagg  clpsrlqpil  lldpsgshap  lltpvglpl  pfhfaqsimt
301  terlsgsgh  wplsrttrsep  lppsatappp  pgpmqprleq  lkthvqvkr  sakpsekprl
361  rgipsaedle  tdggpggvv  ddglehrelg  hgqpeargpa  plqqhqpqvi  weqqlagrl
421  prgstgdcvi  lplaggghrp  lsraqsspaa  pasisapepa  sqarvlssse  tpartlpflt
481  gliydsvmlk  hqscgdnr  hpehagriqs  iwsrlqergl  rsqceclgr  kasieelqsv
541  hserhvllly  tnplsrklld  ngklagiliaq  rmfemlpcgg  vgvdttdtiwn  elhssnaarw
601  aagsvtdlaf  kvasrelkng  favvrppghh  adhstamgfc  ffnsvaiacr  qlqqqskask
661  askilivdwd  vhhngtqqt  fyqdpvlyi  slhrhddgnf  fpgsgavdev  gagsgegfnv
721  nvawaggldp  pmgdpeylaa  frivvmpiar  efspdvlvs  agfdaaeghp  aplggyhvsa
781  kcfgymtqq1  mnlaggavvl  alegghdlta  icdaseacva  allgnrvdpl  seegwkqkpp
841  pqchplsgr  dpgaq (SEQ ID NO:13)

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FIG. 7A

FIG. 7B-1
FIG. 7B-2

1 ataataccta ccttgacga ccacgacagg ataatgtgag gaaaaacccc catgagagtg  
 61 ttttgccatt gtcaagttag cctgagggag gctgaggggg gatcaggctg tatcatgccc  
 121 ccgaggacaa actttccagt ttaccctgct ccctctctct gtccttaggc tgccccaggc  
 181 cctgcgcaga cacaccaggc cctcagccgc agcccatgga cctgcgggtg ggcacagcgc  
 241 cccagtgga gccccacca gggccacat tgctggccct gcagcgtccc cagcgcctgc  
 301 accaccact ctctctagca ggcctgcagc agcagcgtc ggtggagccc atgaggctct  
 361 ccatggacac gccgacgcc gagttgcagg tgggacccca ggaacaagag ctgcggcagc  
 421 ttctccaaa ggacaagagc aagcgaagtg ctgtagccag cagcgtgtc aagcagaagc  
 481 tagcggaggt gattctgaaa aaacagcagg cggccctaga aagaacagtc catcccaaca  
 541 gccccggcat tccctacaga accccggagc ccctggagac ggaaggagcc accgcctcca  
 601 tgctcagcag ccttcgccct cctgctccca gccgcgccag tgacccccca gagcactccc  
 661 ctctgcgcaa gacagtctct gagcccaacc tgaagctgcg ccataagccc aagaagtccc  
 721 cggagcggag gaagaatcca gactcctccc aggtagtag aggagagtgc gccccccagc  
 781 ggcccgacga gaccctcggc gactcctccc caagtagtag cagcacgccc gcatcagggt  
 841 gcagtccccc caatgacagc gagcacggcc ccaatcccat cctgggagac agtgaccgca  
 901 ggaccatccc gactctgggc cccggggggc caatcctggg gagccccccac actccccct  
 961 tcctgccccca tggcttggag ccgaggctg ggggacactt gccctccgc ctgcagccca  
 1021 ttcctctcct ggaccctca ggctctcatg cccgcctgct gactgtgccc gggcttgggc  
 1081 ccttgccctt ccactttgcc cagtccttaa tgaccaccca gcggctctct gggtcaggcc  
 1141 tccactggcc actgagccgg actcgtcag agccctgccc cccagtgcc accgctcccc  
 1201 caccgcccgg ccccatgcag cccgcctgg agcagctcaa aactcacgtc caggtgatca  
 1261 agaggtcagc caagccgagt gagaagcccc ggctgcggca gataccctcg gctgaagacc  
 1321 tggagacaga tggcggggga ccgggccagg ttgtggacga cggcccgag cacaggagc

FIG. 7B-1

1381 tgggccatgg gcagcccgag gccagaggcc ccgctcctct ccagcagcac cctcaggtgt  
1441 tgctctggga acagcagcga ctggctgggc ggctccccc ggagcagcac ggggacactg  
1501 tgctgcttcc tctggcccag ggtgggcacc ggcctctgtc ccgggctcag tcttcccag  
1561 ccgcacctgc ctcaactgtca gccccagagc ctgccagcca ggcccgagtc ctctccagct  
1621 cagagacccc tgccaggacc ctgcccttca ccacagggct gatctatgac tcggtcatgc  
1681 tgaagcacca gtgctcctgc ggtgacaaca gcaggcaccc ggagcacgcc ggccgcaccc  
1741 agagcatctg gtccccggctg caggagcggg ggccctcggag ccagtgtgag tgtctccgag  
1801 gccggaaggc ctccctggaa gagctgcagt cggctccactc tgagcggcac gtgctcctct  
1861 acggcaccaa ccgctcagc cgcctcaaac tggacaacgg gaagctggca gggctcctgg  
1921 cacagcggat gtttgagatg ctgcccctgtg gtggggttgg ggtggacact gacaccatct  
1981 ggaatgagct tcattccLcc aatgcagccc gctgggcccg tggcagtgtc actgacctcg  
2041 ccttcaaagt ggcttctcgt gagctaaaga atggtttcgc tgtggtgcgg ccccaggac  
2101 accatgcaga tcattcaaca gccatgggct tctgcttctt caactcagtg gccatcgcct  
2161 gccggcagct gcaacagcag agcaaggcca gcaaggccag caagatcctc attgtagact  
2221 gggacgtgca ccatggcaac ggcacccagc aaaccttcta ccaagacccc agtgtgctct  
2281 acatctccct gcacgccat gacgacggca acttcttccc ggggagtggg gctgtggatg  
2341 aggtaggggc tggcagcggg gagggcttca atgtcaatgt ggccctgggct ggaggtcttg  
2401 acccccccac gggggatcct gagtacctgg ctgctttcag gatagtcgtg acgcccacg  
2461 ccgagagttt ctctccagac ctagtccctgg tgcttgccgg atttgatgct gctgagggtc  
2521 acccgccccc acLgggtggc taccatgttt ctgccaatg tttttggatac atgacgcagc  
2581 aactgatgaa cctggcagga ggcgcagtgg tgctggcctt ggaggggtggc catgacctca  
2641 cagccatctg tgacgcctct gaggcctgtg tggctgctct tctgggtaac aggggtggatc  
2701 ccctttcaga agaaggctgg aaacagaaac cccaacctca atgccactcg ctctctggag  
2761 gccgtgatcc ggggtgcacag taaatactgg ggctgcatgc aggcctggc ctctgtcca  
2821 gactcctggg tgcctagagt gccaggggct gacaaagaag aagtggaggc agtgaccgca  
2881 ctggcgtccc tctctgtggg cctcctggct gaagataggc cctcggagca gctggtggag  
2941 gaggaagaac ctatgaatct ctaaggctctt ggaacctctt gccgcccac catgcccctg  
3001 ggacctgggt ctctctaac ccctggcaat agccccatt cctgggtctt tagagatcct  
3061 gtgggcaagt agttggaacc agagaacagc ctgacctgctt tgacagttat ccaggggagc  
3121 gtgagaaat c (SEQ ID NO:14)



"seq" seq130

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1  gaaattcggc acgagctcgt gccgaattcg gcacgagaac ggttttaagc ggaagatgga
61  ggagccggag gaaccggcgg acagtgggca gtcgctggtc ccggtttata tctatagtcc
121  cgagtatgtc agtatgtgtg actccctggc caagatcccc aacggggcca gatatgtgca
181  ttctttgatt gaagcatatg cactgcataa gcaaatgagg atagttaagc ctaaagtggc
241  ctccatggag gagatggcca cttccacac tgatgcttat ctgcagcatc tccagaaggt
301  cagccaagag ggcgatgatg atcatccgga ctccatagaa tatgggctag gttatgactg
361  ccagccact gaaggatat ttgactatgc agcagctata ggaggggcta cgatcacagc
421  tgcccaatgc ctgattgacg gaatgtgcaa agtagcaatc aactgggtctg gagggtgcca
481  tcatgcaaa gaaagtgaag catctggttt tcgttatctc aatgatgctg tcctgggaat
541  attacgattg cgacggaaat ttgagcgtat tccctacgtg gattcggatc tgcaccatgg
601  agatggtgta gaagacgcac tcagtttcac ctccaaagtc atgaccgtgt ccctgcacaa
661  attctcccca ggatttttcc caggaacagg tgacgtgtcc gacgttgccc tagggaaggg
721  acggtactac agtgtaaatg tgcccatcca ggatggcata caagatgaaa aatattacca
781  gatctgcgaa agtgactata ccaagccttt aatcccaaag cagtgggtctt
841  acagctggga gccgacacaa tagctgggga tcccatgtgc tcctttaaca tgactccagt
901  gggaattggc aagtgtctca agtacatccc tcaatggcag ttggcaacac tcatttcggg
961  aggaggaggc tataaccttg ccaacacggc tcgatgctgg acatactga ccggggtcat
1021 cctagggaaa acactatcct ctgagatccc agatcatgag tttttcacag catatggtcc
1081 tgattatgtg ctggaatatc cgccaagctg ccggccagac cgcaatgagc ccacccgaat
1141 ccaacaaatc ctcaactaca tcaaagggaa tctgaagcat gtggtctagt tgacagaaag
1201 agatcagggt tccagagctg aggagtgggt cctataatga agacagcgtg ttatgcaag
1261 cagtttgrgg aatttgtgac tgcagggaaa atttgaaga aattacttcc tgaaaaatttc
1321 caaggggcat caagtggcag ctggcttcct ggggtgaaga ggcaggcacc ccagagtcct
1381 caactggacc taggggaaga aggagatarc ccacatttaa agttcttatt taaaaaaca
1441 cacacacaca aatgaaattt ttaatctttg aaaattattt ttaagcgaat tggggagggg
1501 agtattttaa tcattctaaa tgaaacagat cagaagctgg atgagagcag tcaccagtct
1561 gtagggcagg aggcagctga caggcagggn tngggcctcn ggaccancca ngtggagccc
1621 tgggagagan ggtactgac ngcagactgg gagg (SEQ ID NO:16)

```

FIG. 8B



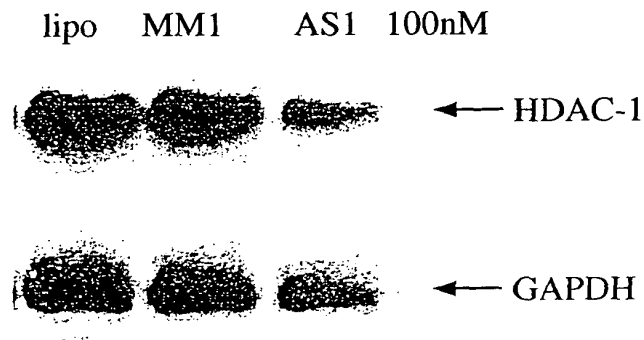


FIG. 9A

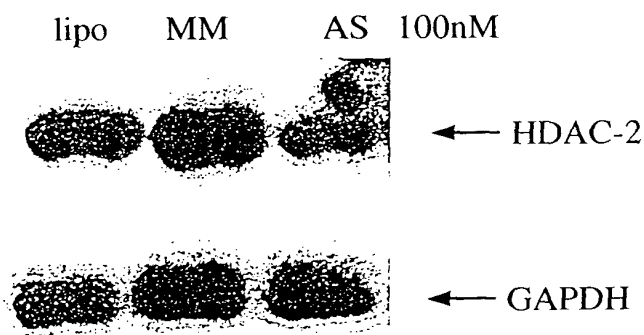


FIG. 9B

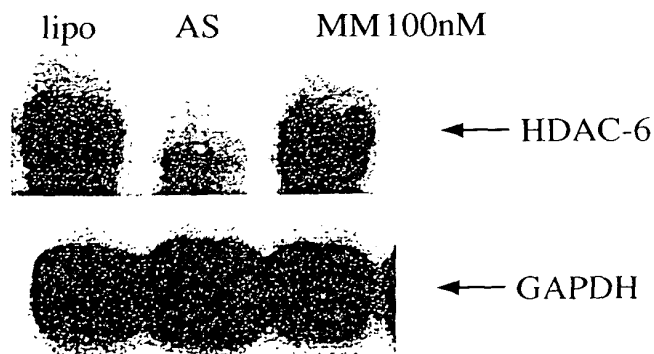


FIG. 9C

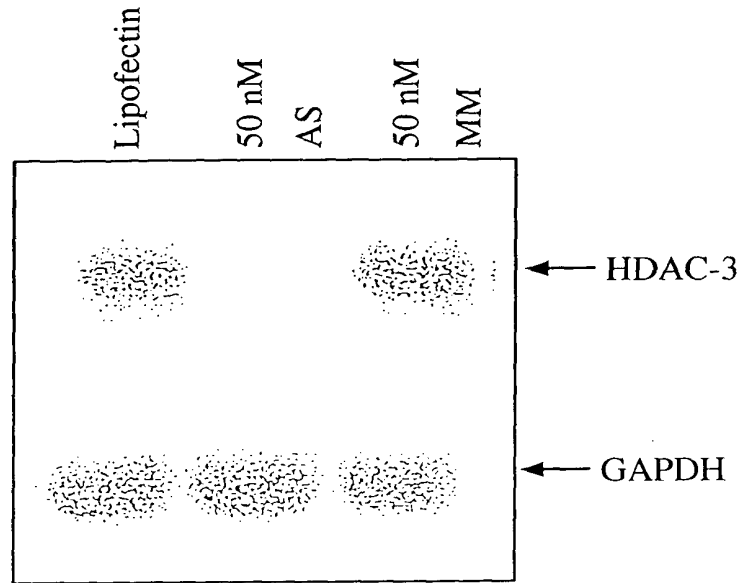


FIG. 9D

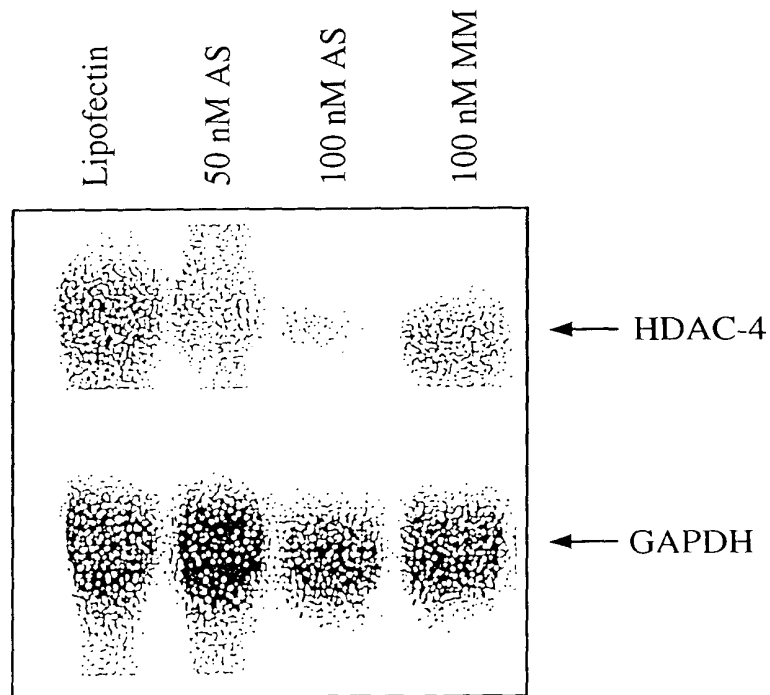


FIG. 9E

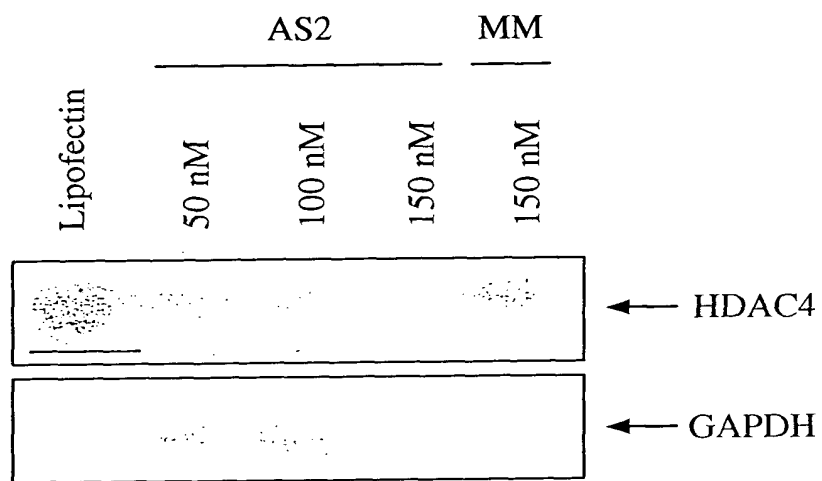


FIG. 9F

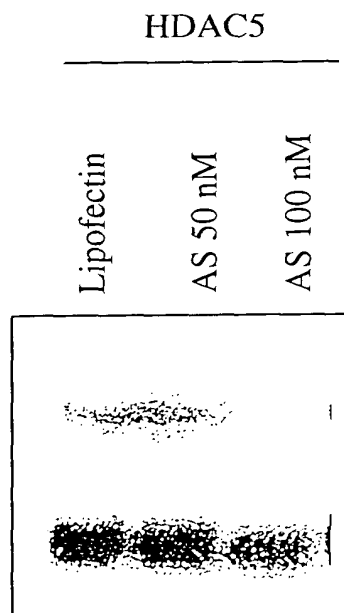


FIG. 9G

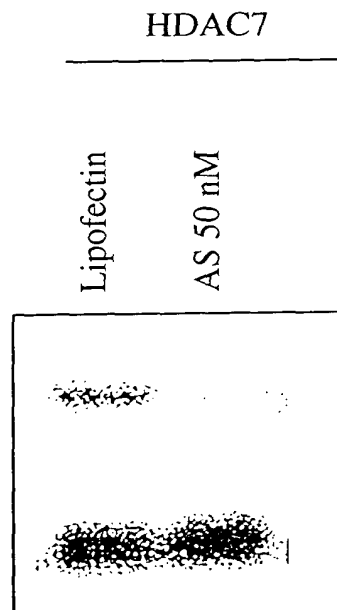


FIG. 9H

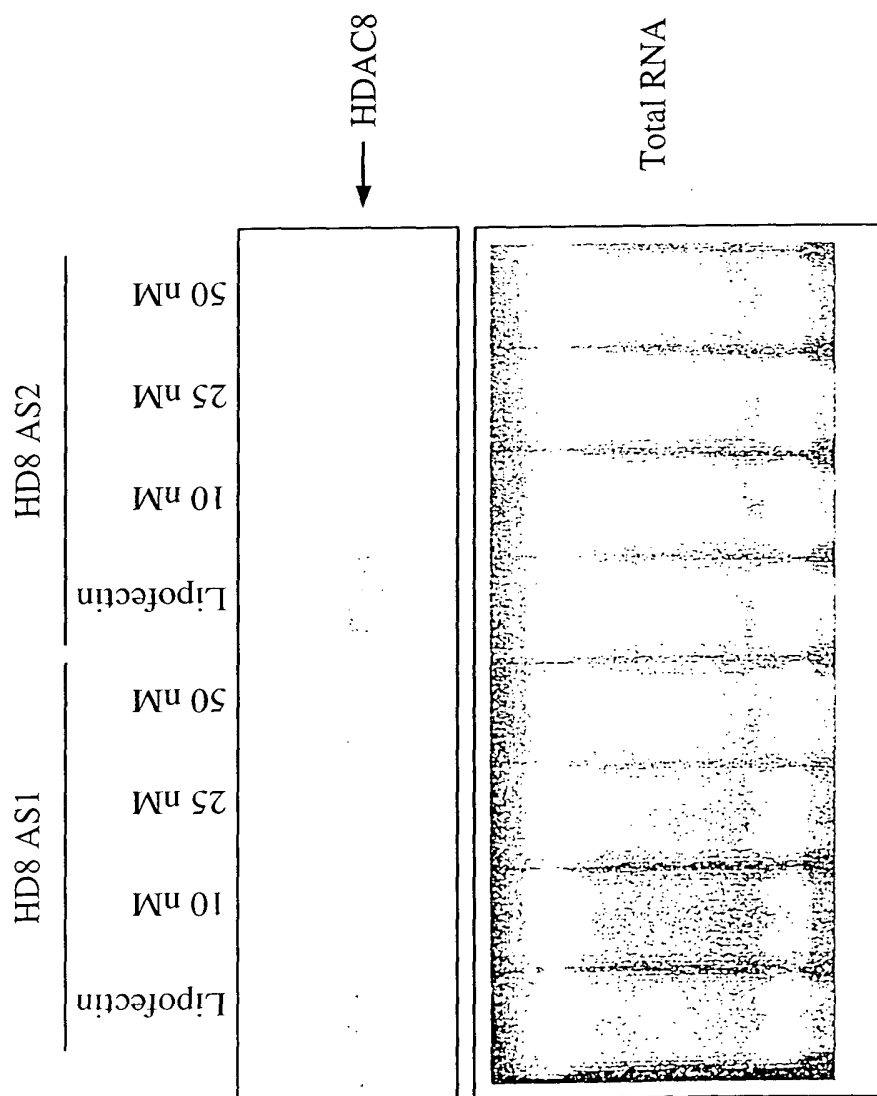
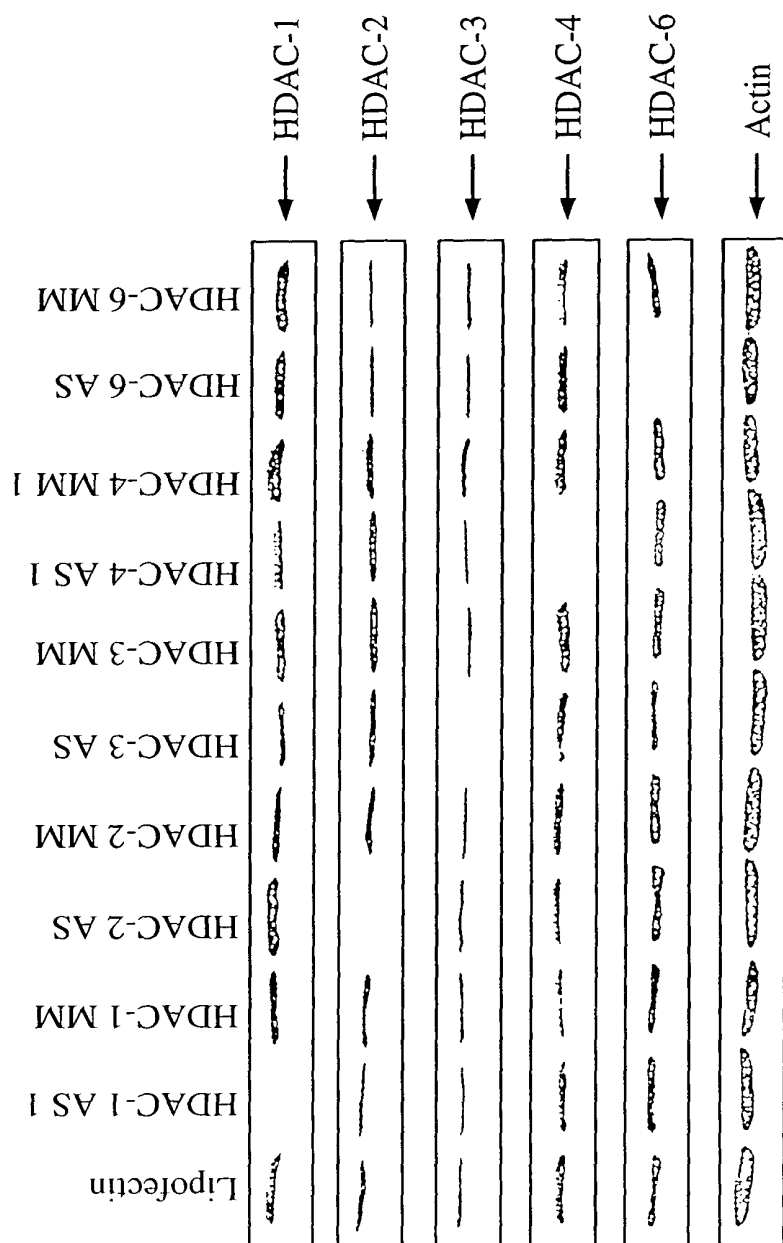


FIG. 9I



AS = Antisense  
MM = Mismatch  
NS = Non-specific control  
3 day treatment  
Oligonucleotide conc - 50nM

FIG. 10A

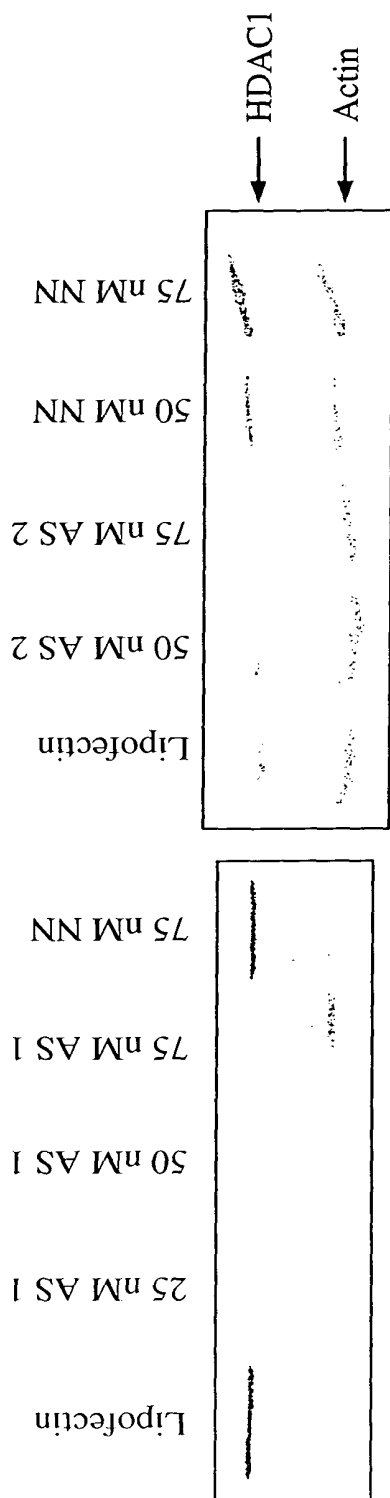


FIG. 10B

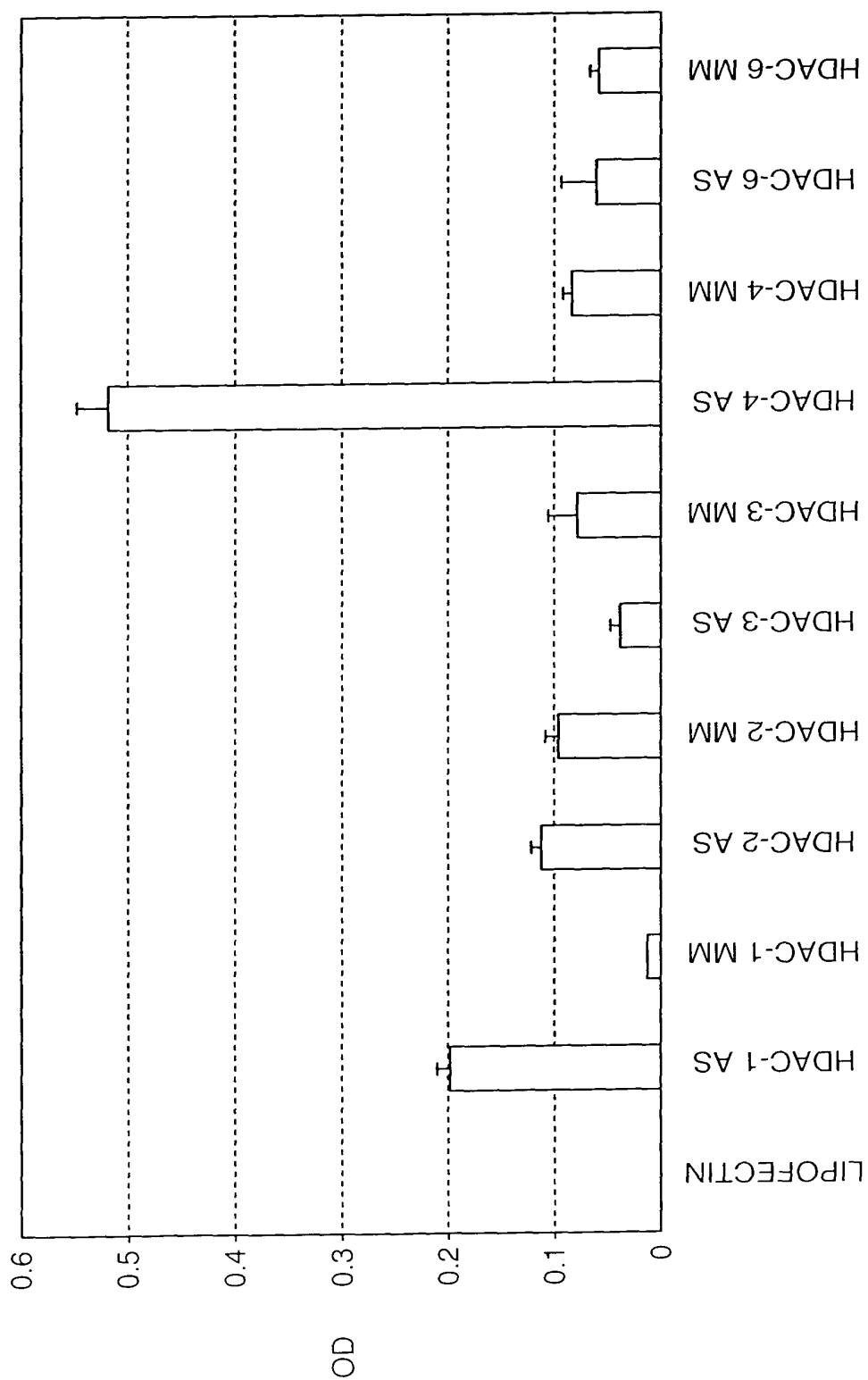


FIG. 11

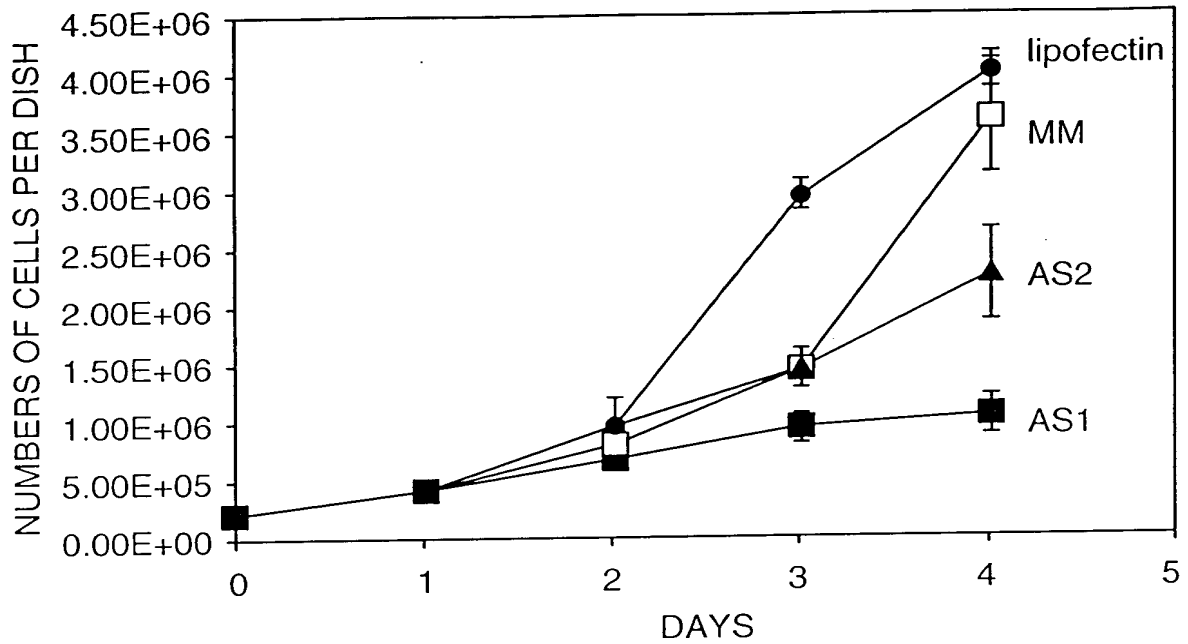


FIG. 12A

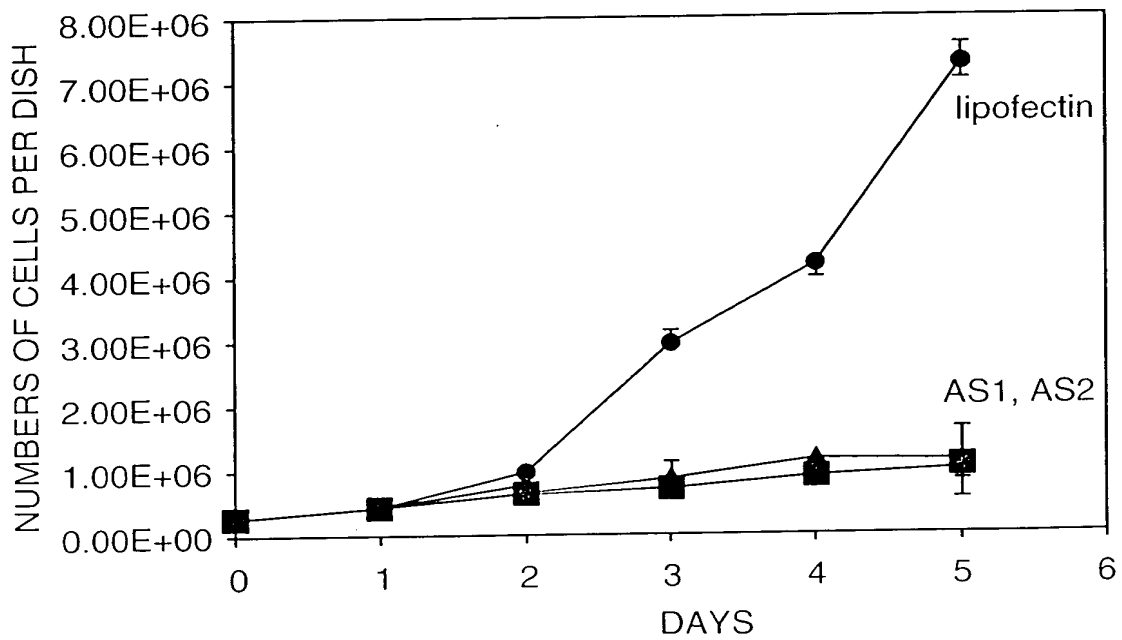
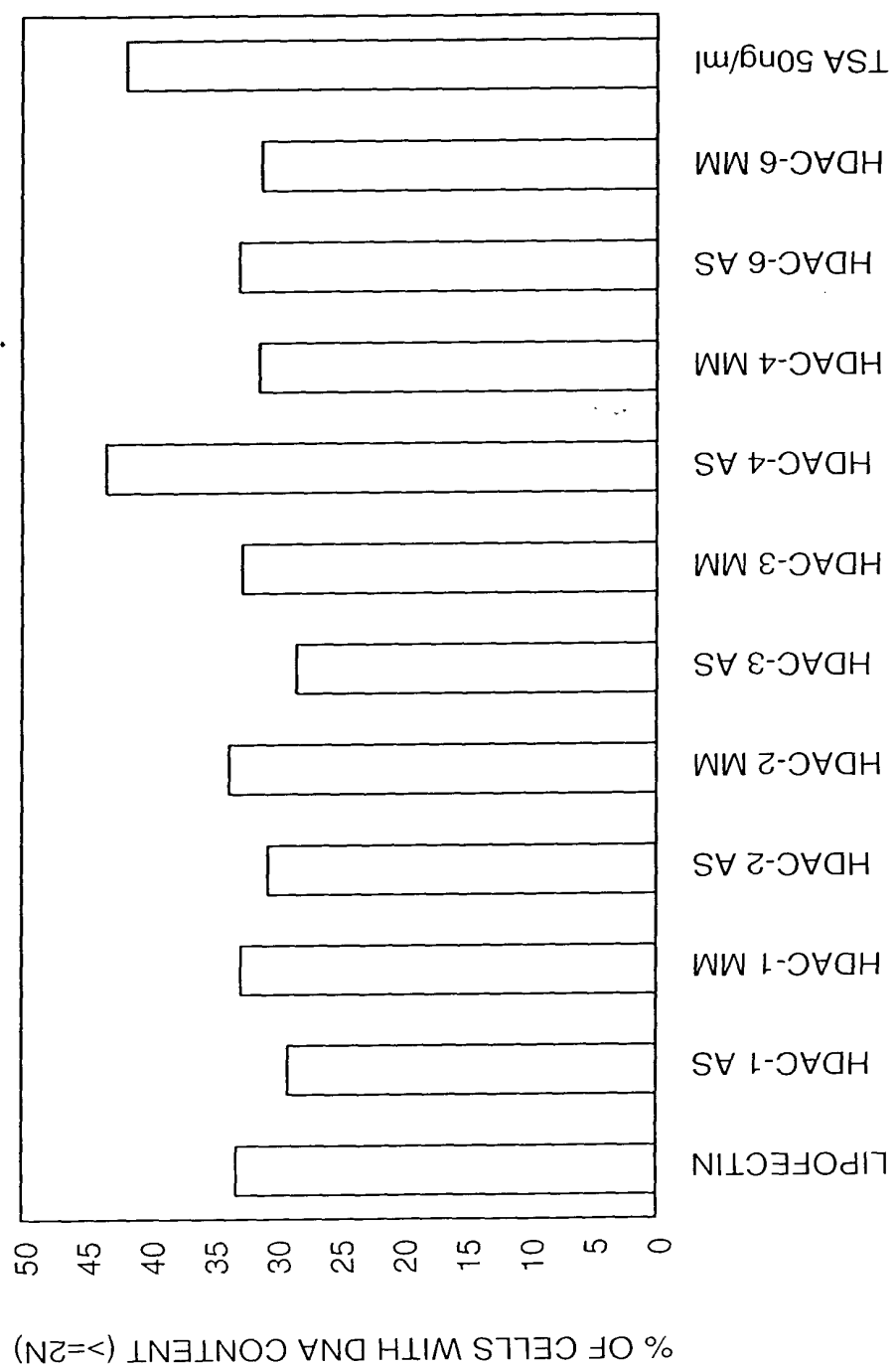


FIG. 12B





T0550" B554T500

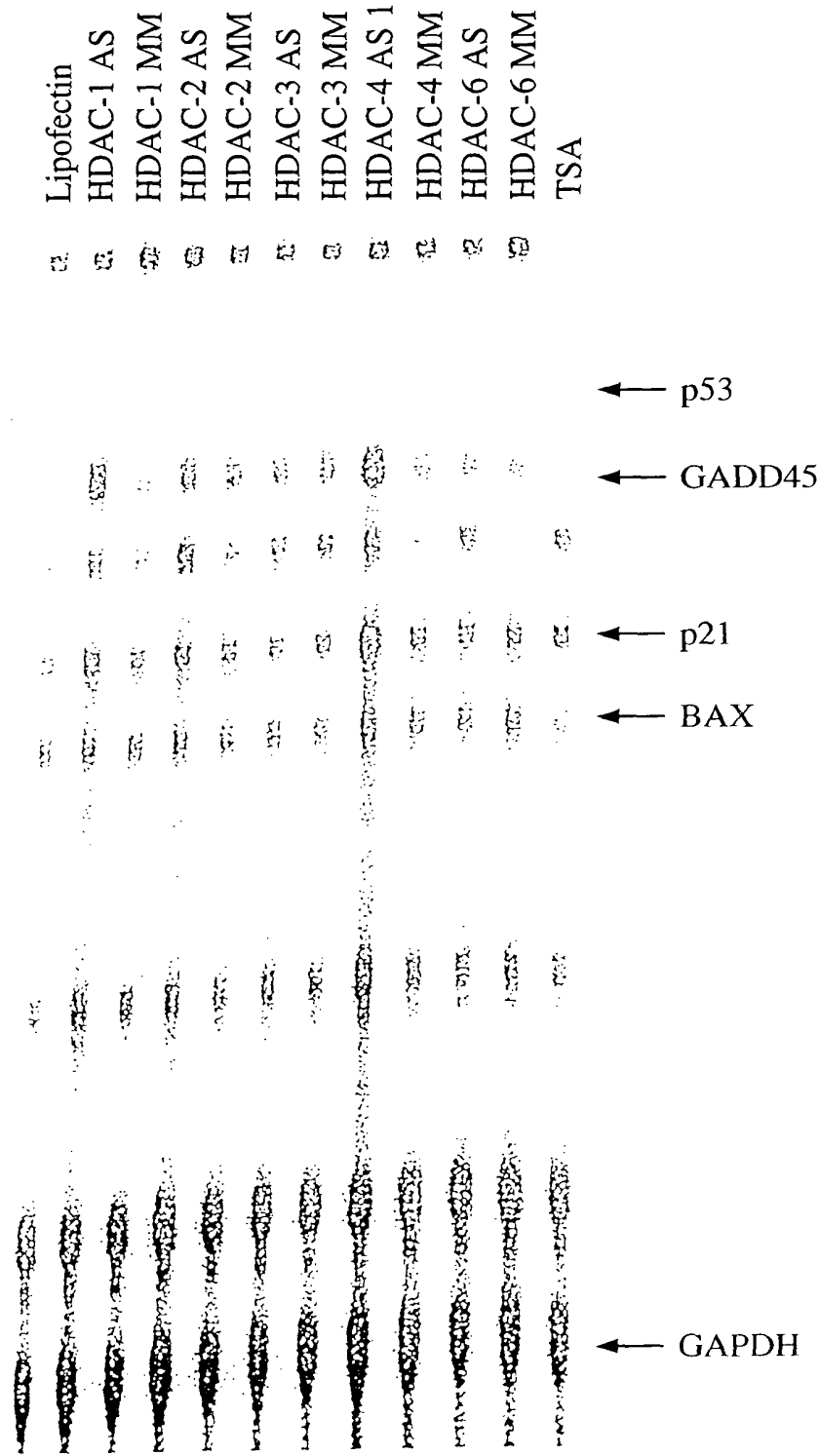


FIG. 14

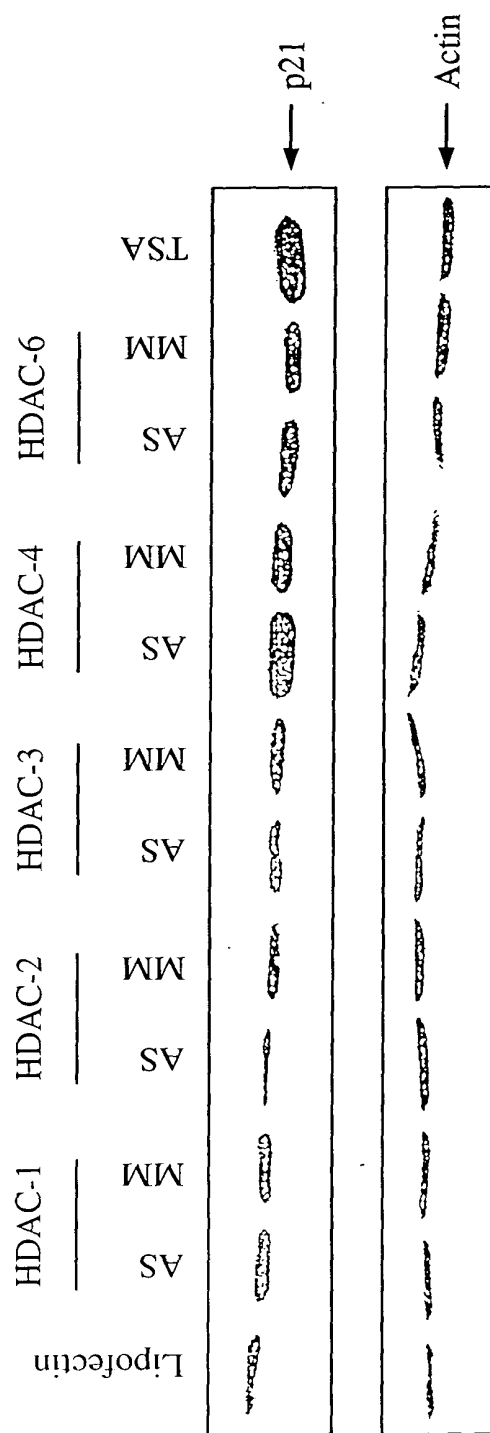


FIG. 15

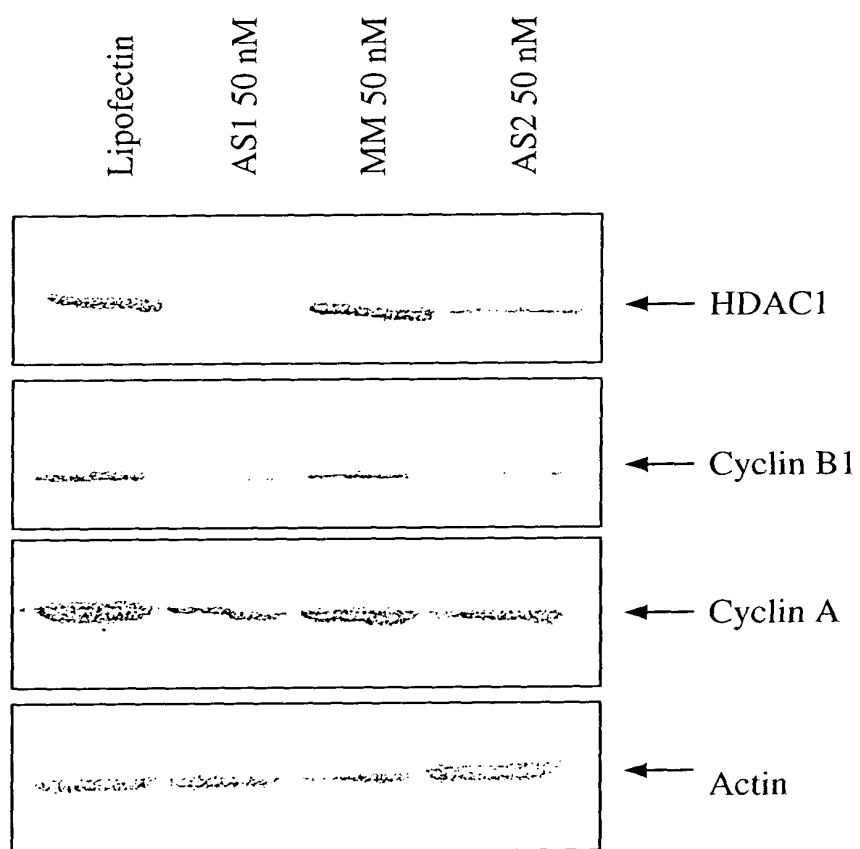
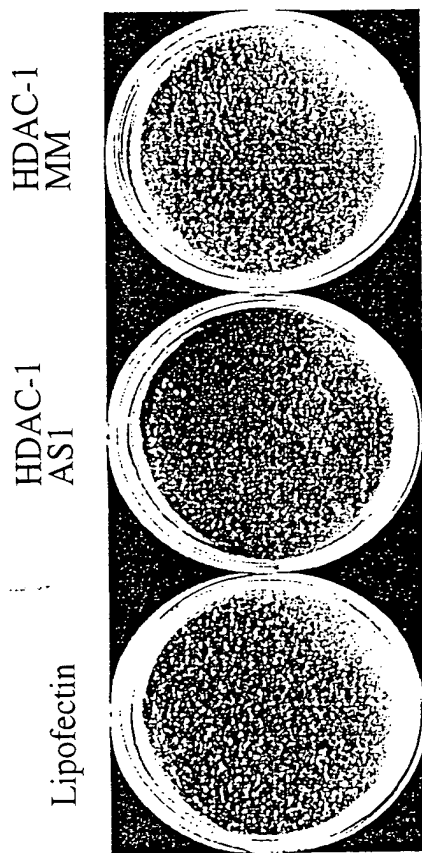


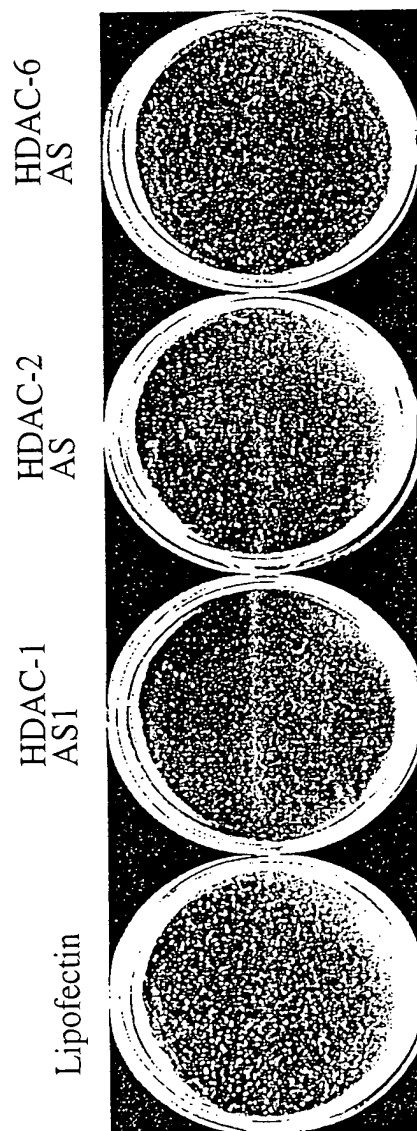
FIG. 16



Colony Numbers

-1200      -120      -1160

FIG. 17A



Colony Numbers

-1200      -120      -890      -730

FIG. 17B